of the spring at *EE* removed so that the tension, or pulling together of the spring, is strengthened. There is a consequent additional pull on the mass just when it is needed to encourage the motion. This effect corresponds to the cooling of the air in the singing tube at *EE*.

F. R. WATSON

LABORATORY OF PHYSICS,
UNIVERSITY OF ILLINOIS

THE AMERICAN PHYSIOLOGICAL SOCIETY

THE American Physiological Society held a very successful meeting at the University of Chicago during convocation week. The scientific program covered three days of December 28, 29 and 30 with two daily sessions each. The evenings were given to general meetings and social intercourse. On the evening of December 28 the Physiologists joined with the other Biological Societies in the annual dinner of the Federation of American Societies for Experimental Biology.

The dinner is looked forward to by the membership as the annual social event of the meetings. Dr. Roswell H. Park, president of the American Society for Experimental Pathology and chairman of the executive committee for the year 1920 presided at the dinner. Addresses were made by Dr. Simon Flexner, of the Rockefeller Institute for Experimental Biology and Medicine, and Dr. William H. Howell, of the School of Hygiene and Public Health of the Johns Hopkins University. A less formal dinner was also held on the evening of December 29.

The chief events of the two business meetings of the Physiological Society were the following:

1. Announcement of the forthcoming introductory number of the new journal issued under the auspices of the society, *Physiological Reviews*, which appeared early in the new year.

2. The annual dues for 1921 were fixed at $2 by the council.

3. The council announced the appointment of Donald R. Hooker as managing editor for the *American Journal of Physiology* for 1921.

4. The council announced the appointment of Donald R. Hooker as managing editor, and Wm. H. Howell, J. J. R. Macleod, Frederic S. Lee, D. R. Hooker, L. B. Mendel, Reid Hunt and Gideon H. Wells as the editorial board for *Physiological Reviews* for the year 1921.

5. Reports of the treasurer were received and audited.

6. The officers elected for the ensuing year are:

President, J. J. R. Macleod, University of Toronto.

Secretary, Chas. W. Greene, University of Missouri.

Treasurer, Joseph Erlanger, Washington University, St. Louis.

Councilman for the term, 1921–1924, A. J. Carlson, University of Chicago.

Councilman for the unexpired term of President-elect Macleod, J. A. E. Eyster, University of Wisconsin.

7. The following new members were nominated by the council and elected by the society:

J. B. Collip, A.M., Ph.D., assistant professor in physiology and biochemistry, University of Alberta.

W. Dennis, A.M., Ph.D., assistant professor of physiological chemistry, Tulane University.

L. R. Dragstedt, Ph.D., assistant professor of physiology, University of Chicago.

F. S. Hammett, A.B., M.S., Ph.D., fellow in biochemistry at the Wistar Institute.

Fraser Harris, M.D., D.Sc., professor of physiology and histology, Dalhousie University, Halifax, N. S.

Selig Hecht, Ph.D., assistant professor of physiology, Creighton Medical College, Omaha.

Davenport Hooker, B.A., M.A., Ph.D., professor of anatomy, University of Pittsburgh, School of Medicine.

Norman M. Keith, instructor in medicine, Mayo Clinic, Rochester, Minn.

S. O. Mast, B.S., Ph.D., professor of zoology, Johns Hopkins University.

Jas. M. D. Olmsted, M.A., Ph.D., assistant professor in physiology, Toronto University.

Thos. L. Patterson, A.B., A.M., M.S., Ph.D., assistant professor of physiology, University of Iowa.

Maurice I. Smith, B.S., M.D., pharmacologist, U. S. Public Health Service, Washington, D. C.

8. A new fellowship for Research in Physiology was established under the control of the society by the generous contribution of William T. Porter, of the Harvard Medical School. Dr. Porter contributed $1,200 as an annual stipend to establish a fellowship for research in physiology under the auspices of the American Physiological Society and the administration of its council. The acceptance of the proposition was recommended by the council and accepted with appreciation by vote of the society. The fellowship will begin October 1, 1921, and is to be filled by nomination by members of

the Physiological Society and appointment by the council.

A noteworthy event of the meeting was an exhibit of old and historical books on anatomy and physiology arranged by Professor Arno B. Luckhardt, of the University of Chicago. This exhibit was open during the entire session. A very profitable scientific program was carried forward as recorded below. The society in closing its annual session passed the following resolution:

Resolved: That the American Physiological Society expresses its keen appreciation to the authorities of the University of Chicago and to the local committee for the numerous and effective arrangements that have contributed in a large degree to the scientific and social success of this the thirty-third annual session of the society.

SCIENTIFIC PROGRAM

The scientific program of research titles is recorded herewith in full:

In memoriam Samuel James Meltzer: WM. H. HOWELL, Baltimore, and SIMON FLEXNER, New York.

The volume changes in the cerebrospinal fluid under the influence of drugs: F. C. BECHT, Northwestern University Medical School.

Use of hypertonic salt in experimental intracranial pressure: ERNEST SACHS and J. Y. MALONE (by invitation), Washington University.

Forms of infections and communicable encephalitis in man and animals: SIMON FLEXNER.

A physiochemical method of characterizing proteins. II.: EDWIN J. COHN.

A separation of substances eliminated by the kidney into groups on the basis of the effects of changes in blood flow and temporary anæmia: E. K. MARSHALL, JR., and MARIAN M. CRANE (by invitation), Washington University Medical School, St. Louis.

The synthesis and elimination of hippuric acid in nephritis: F. B. KINGSBURY and W. W. SWANSON (by invitation).

A crystalline uric acid compound in beef blood: ALICE ROHDE DAVIS and STANLEY R. BENEDICT.

Further observations on the mechanism of the keto-lytic (anti-ketogenic) action of glucose. (a) *In vitro experiments.* (b) *Data from respiration experiments on man:* P. A. SHAFFER.

The lipoid balance in the blood: W. R. BLOOR.

The nature of blood clotting, as viewed from the action of tissue extracts: C. A. MILLS (by invitation) and G. M. GUEST (by invitation).

The inhibitory influence of the cervical sympathetic nerve upon the sphincter muscle of the iris: DON R. JOSEPH, St. Louis University.

Consistency of protoplasm and character of amœboid movement: LEO LOEB, Washington University, St. Louis.

The internal secretion of Sandstrom's glands, parathyroid hypofunction and eclampsia: ALDO C. MASSAGLIA (by invitation), Northwestern University Medical School.

Thyro-parathyroidectomy in the sheep: SUTHERLAND SIMPSON, Cornell University.

Technique and general effects of removal of the liver: F. C. MANN, Mayo Foundation, Rochester, Minn.

The liver as a regulator of the glucose concentration of the blood and nitrogen constituents of the blood following its removal: F. C. MANN and T. B. MAGATH (by invitation), Mayo Foundation.

Production of ammonia in the nerve during excitation: SHIRO TASHIRO, University of Cincinnati.

Further experiments on the removal of the sino-auricular node: J. A. E. EYSTER and W. J. MEEK.

Vagal apnoea: W. J. MEEK.

Heat-block in nerves: PERCY M. DAWSON and ELVIA OSTLUND (by invitation), University of Wisconsin.

Studies on the physiological effects of X-rays: (1) *On the variation in the lethal dose during metamorphoses in the fruit-fly, Drosophila:* JAMES W. MAVOR (by invitation), Union College, New York.

Readjustment of the peripheral lung motor mechanism after bilateral vagotomy: T. L. PATTERSON (by invitation), University of Iowa.

A study of denervated tissues: F. A. HARTMAN and W. E. BLATZ (by invitation), University of Buffalo.

Changes in temperature and pulse rate in the rabbit during innoculations of fever: F. M. BALDWIN and E. N. MILLER (by invitation), Iowa State College.

The changes in the H-ion concentration coincident with the growth of bacterium tumefaciens and other plant pathogens: WM. H. CHAMBERS (by invitation), Washington University, St. Louis, Mo.

Difference in the H-ion concentration of the sensible, regional and total perspiration of the body: GEORGE A. TALBERT, Fairmount College, Wichita, Kansas.

Plasma sodium chloride and œdema in diabetes: RUSSELL M. WILDER (by invitation) and CAROL BEELER (by invitation), Mayo Foundation, Rochester.

Respiratory changes occurring during exercise: ROY J. PEARCE, Akron, Ohio.

Further observations on the movement of the arterial walls under pneumatic compression: JOSEPH ERLANGER, Washington University, St. Louis.

Oxygen consumption during repeated slight hemorrhages: H. SCHLOMOWITZ, ETHYL RONZONI (by invitation), and H. H. SCHLOMOWITZ (by invitation), Marquette Medical School, Milwaukee, Wisconsin.

Effect of hemorrhage on the response to oxygen reduction: ROBERT GESELL, EDWARD BLAIR (by invitation), and ROBERT TROTTER (by invitation), University of California.

The rate of methemoglobin formation of carboxyhemoglobin: T. K. KRUSE, University of Pittsburgh.

Error as a criterion of industrial fatigue: E. G. MARTIN and J. P. BAUMBERGER (by invitation), Stanford University.

Salt antagonisms in artemia: E. G. MARTIN and BLAKE C. WILBUR (by invitation), Stanford University.

Hours of work in relation to the quantity of the output: A. H. RYAN and P. S. FLORENCE (by invitation), Tufts Medical College, Boston.

The response of a muscle to submaxial stimulation of its motor nerve as affected by reflex excitation and inhibition: ALEXANDER FORBES, Harvard Medical School.

On a volatile sperm-stimulating substance derived from marine eggs: G. H. A. CLOWES.

Some effects of increased and decreased oxygen pressure on embryos of ring-doves: OSCAR RIDDLE, Cold Spring Harbor, Long Island.

The fat soluble vitamine: H. STEENBOCK, MARIANA T. SELL (by invitation), and E. M. NELSON (by invitation).

Further observations on the epinephrin output of the adrenals: G. N. STEWART and J. M. ROGOFF, Western Reserve University.

The effect of adrenalectomy upon the total metabolism of the cat: JOSEPH C. AUB, J. FORMAN (by invitation), and E. M. BRIGHT (by invitation), Harvard Medical School.

The relationship of the increase in blood sugar concentration to (a) *The specific dynamic action of glucose and to* (b) *The specific dynamic action of adrenalin:* W. M. BOOTHBY and IRENE SANDIFORD (by invitation), Mayo Foundation, Rochester, Minn.

Nomographic charts for the calculation of the basal metabolic rate: W. M. BOOTHBY and R. B. SANDIFORD (by invitation), Mayo Foundation, Rochester, Minn.

Specific dynamic action of thyroxin: H. S. PLUMMER (by invitation), and W. M. BOOTHBY.

Vasomotor reactions of the nasal cavity and postnasal space to chilling of the body surface: STUART MUDD (by invitation), SAMUEL B. GRANT (by invitation), ALBERT GOLDMAN (by invitation), Harvard University.

Factors determining the duration of the consecutive phases of the cardiac cycle: CARL J. WIGGERS, Western Reserve University.

Observations on the pathological physiology of circulatory stasis in man: R. W. SCOTT, City Hospital, Cleveland, Ohio.

The relation of cottonseed poisoning to gossypol: C. L. ALSBERG and E. W. SCHWARTZE (by invitation), Bureau of Chemistry, Washington, D. C.

Experimental observations on the ureter: VINCENT J. O'CONOR (by invitation), and G. B. WISLOCKI (by invitation), Harvard Medical School.

Observations on the spread of temperature changes in tissues: N. B. TAYLOR (by invitation), University of Toronto.

An explanation for the increased oxidation following the ingestion of fats and alcohols: W. E. BURGE, University of Illinois.

An explanation for the increased oxidation after fertilization during youth, and for its decrease in old age: W. E. BURGE and J. LEICHSENRING (by invitation).

The effect of various temperatures upon blood catalase: O. O. STOLAND and LALIA WALLING (by invitation), University of Kansas.

Further observations on the results of feeding cotton meal and kernels to animals: ICIE G. MACY (by invitation), and N. M. ALTER (by invitation), Yale University and Western Pennsylvania Hospital.

The gastrin theory put to physiological test: A. C. IVY, Loyola Medical School, Chicago.

The intestinal mechanism primarily stimulated by sodium carbonate: FREDERICK S. HAMMETT (by invitation), Wistar Institute of Anatomy, Philadelphia.

The effect of pituitary extract upon the peripheral vasomotor mechanism and on diuresis: O. O. STOLAND, J. H. KORB (by invitation), R. M. ISENBERGER (by invitation), and R. W. URIE (by invitation), University of Kansas.

The quantitative measurement of static control in standing: W. R. Miles, Carnegie Nutrition Laboratory, Boston.

Blood pressure and electrocardiographic changes in the dog during extreme oxygen want: C. W. Greene and N. C. Gilbert (by invitation), Northwestern University Medical School.

PAPERS READ BY TITLE

A study of the influence of various circulatory conditions on the reaction to the low oxygen of rebreathing: Edward C. Schneider.

Endocrinological studies of the prostate gland: D. I. Macht.

Movements of the empty stomach of necturus: T. L. Patterson (by invitation).

Notes on muscle fatigue in frog when immersed in various concentrations of the alcohols: F. M. Baldwin.

Report on the daily analysis of outdoor (city) air for 18 months: W. M. Boothby and K. Sandiford (by invitation).

The effect of starvation on the catalase content: W. E. Burge and J. Leichsenring (by invitation).

Dioestrous changes in the mammary gland of the opossum: Carl Hartman (by invitation).

A new method for determining cardiac output: J. A. E. Eyster and W. J. Meek, University of Wisconsin.

Contributions to our knowledge of the center of gravity in man: Percy M. Dawson and coworkers.

Minimal reflex contractions in tenuissimus of the cat, investigated by Pratt's optical method: E. L. Porter, Western Reserve University.

Production of ammonia in muscle under different conditions: Shiro Tashiro and Olive P. Lee (by invitation).

The distribution of particulate matter after intravenous injection: C. K. Drinker, L. A. Shaw (by invitation) and C. C. Lund (by invitation), Harvard Medical School.

P-D time and D-P time of the carotid pulse of women: W. P. Lombard and O. M. Cope (by invitation), University of Michigan.

The relation of the cerebral hemispheres to the sympathetic nervous system: Fred. T. Rogers, Baylor University.

A quantitative study of the effect of magnesium chloride on nerve: Esther Creilsheimer (by invitation), and C. E. Shepherd (by invitation), University of Minnesota.

The inhibitory effects of vagus stimulation on gastric mobility in the turtle: Fred. T. Rogers and Z. Berkovitz (by invitation), Baylor University.

Experimental gigantism produced by feeding anterior lobes of hypophysis: E. Uhlenhuth (by invitation), Rockefeller Institute, New York.

DEMONSTRATIONS

Exhibition of old books of anatomy and physiology: A. B. Luckhardt, University of Chicago.

The adaptation of Adrian's narcosis experiment to class-room instruction on nerve conduction: Alexander Forbes, Harvard University.

The capillary circulation in the cat's ear: Donald R. Hooker, Johns Hopkins University.

The action of gastrin: R. W. Keeton, F. C. Koch and A. B. Luckhardt, University of Chicago.

Vasomotor nerves in the lungs of amphibia and reptila: A. B. Luckhardt and A. J. Carlson.

Models to illustrate the principles of ophthalmoscopy and retinoscopy: A. B. Luckhardt.

Appetite secretion of gastric juice in man: A. J. Carlson.

Lung automatism and lung reflexes: A. B. Luckhardt and A. J. Carlson.

Effects of prolonged low protein diet in rats: E. C. Turner (by invitation), University of Chicago.

"Fat Soluble A" in chicken fat and orange peel: Ethel Cooper (by invitation), University of Chicago.

Symbiosis in the study of deficiency diseases: Lester Dragstedt (by invitation), University of Chicago.

An anesthesia apparatus: D. E. Jackson.

An anesthesia apparatus for animal experiments: Gerard Raap (by invitation) and D. E. Jackson.

The utilization of the ciliary ganglion in physiology and pharmacology: A. R. Cooper (by invitation) and J. F. Groot (by invitation).

Demonstration of Wright's new method for the study of leucocytic chemotaxis: Elizabeth P. Wolf (by invitation).

Charts illustrating (a) *effects of spells of rest on physical efficiency.* (b) *An examination of indices of circulatory efficiency:* Percy M. Dawson, Lucy A. Wallrich (by invitation) and Frances V. Kupperman (by invitation), University of Wisconsin.

Chas. W. Greene,
Secretary